

Appl. No. 10/806,082
Response Dated September 21, 2007
Reply to Office Action of December 4, 2006
And Communication Dated August 21, 2007

LISTING OF CLAIMS:

1. (Previously Presented) A vehicle air bag for use with an on-board inflator mechanism, said vehicle air bag having at least one panel of air bag fabric, said fabric comprising:
 - a fabric substrate; and
 - a residue formed on said fabric substrate by dipping said fabric substrate in an aqueous solution so as to achieve a desired low permeability, the aqueous solution comprising a water-based finish comprising an aliphatic urethane formulation, a flame retardant, or a halogenated polymer, wherein the polymer that is halogenated comprises an acrylic polymer, an acrylic copolymer, a polyurethane, or a polyvinyl acetate.
2. (Original) The vehicle air bag as recited in claim 1, wherein said residue bonds with said fabric substrate.
3. (Original) The vehicle air bag as recited in claim 1, wherein said fabric substrate is dipped multiple times in said aqueous solution to lower permeability.
4. (Original) The vehicle air bag as recited in claim 1, wherein the permeability of said fabric substrate is adjusted by varying the concentration of said aqueous solution.
5. (Original) The vehicle air bag as recited in claim 1, wherein said fabric substrate is a multifilament yarn having a size of between 210 and 840 denier.
6. (Original) The vehicle air bag as recited in claim 5, wherein said fabric substrate has a size of approximately 210 denier and a thread count range of between 64 and 74.
7. (Original) The vehicle air bag as recited in claim 5, wherein said fabric substrate has a size of approximately 315 denier and a thread count range of between 55 and 65.

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8. (Original) The vehicle air bag as recited in claim 5, wherein said fabric substrate has a size of approximately 420 denier and a thread count range of between 42 and 52.

9. (Original) The vehicle air bag as recited in claim 5, wherein said fabric substrate has a size of approximately 525 denier and a thread count range of between 36 and 46.

10. (Original) The vehicle air bag as recited in claim 5, wherein said fabric substrate has a size of approximately 630 denier and a thread count range of between 33 and 43.

11. (Original) The vehicle air bag as recited in claim 5, wherein said fabric substrate has a size of approximately 840 denier and a thread count range of between 15 and 25.

12. (Withdrawn) A system for adjusting the permeability of a fabric for use in a motor vehicle air bag, said system comprising:

a bath having an aqueous solution and being dimensioned to receive a fabric substrate such that the fabric substrate may be fully immersed in said aqueous solution;

a tenter oven for drying said fabric upon exiting from said bath;
means for conveying said fabric from said bath and to said drying device;
and

whereby said aqueous solution forms a residue on said fabric substrate to achieve a desired permeability.

13. (Withdrawn) The system as recited in claim 12, wherein said conveying means passes the fabric substrate through said bath and said tenter oven at least two times to achieve a lower permeability.

14. (Withdrawn) A method for adjusting the permeability of a fabric for use in a motor vehicle air bag, said method comprising the steps of: (a) dipping a fabric

substrate in an aqueous solution; (b) conveying said fabric substrate to a drying device; and (c) drying said fabric substrate sufficiently to evaporate the water component of said aqueous solution so that a residue is formed on said fabric substrate.

15. (Withdrawn) The method as recited in claim 14, wherein steps (a), (b) and (c) are performed multiple times to achieve a lower permeability for said fabric substrate.

16. (Withdrawn) The method as recited in claim 14, wherein the concentration of said aqueous solution is adjusted to control the permeability of said fabric substrate.

17. (Withdrawn) The method as recited in claim 16, wherein the concentration of said aqueous solution is increased to lower permeability of said fabric substrate.

18. (Withdrawn) The system as recited in claim 16, wherein said aqueous solution is an aliphatic urethane.

19. (Withdrawn) The system as recited in claim 14, wherein said aqueous solution comprises a halogenated polymer.

20. (Withdrawn) The system as recited in claim 14, wherein said aqueous solution comprises a film forming rubber polymer.

21. (Previously Presented) A vehicle air bag for use with an on-board inflator mechanism, said vehicle air bag having at least one panel of air bag fabric, said fabric comprising:

a fabric substrate; and

a residue formed on said fabric substrate by application of an aqueous solution to said fabric substrate so as to achieve a desired low permeability, the aqueous solution comprising a water-based finish comprising an aliphatic urethane formulation, a flame retardant, or a halogenated polymer, wherein the polymer that is halogenated comprises an acrylic polymer, an acrylic copolymer, a polyurethane, or a polyvinyl acetate.

22. (Previously Presented) The vehicle air bag as recited in claim 21, wherein said residue bonds with said fabric substrate.

23. (Previously Presented) The vehicle air bag as recited in claim 21, wherein the permeability of said fabric substrate is adjusted by varying the concentration of said aqueous solution.

24. (Previously Presented) The vehicle air bag as recited in claim 21, wherein said fabric substrate is a multifilament yarn having a size of between 210 and 840 denier.

25. (Previously Presented) The vehicle air bag as recited in claim 24, wherein said fabric substrate has a size of approximately 210 denier and a thread count range of between 64 and 74.

26. (Previously Presented) The vehicle air bag as recited in claim 24, wherein said fabric substrate has a size of approximately 315 denier and a thread count range of between 55 and 65.

27. (Previously Presented) The vehicle air bag as recited in claim 24, wherein said fabric substrate has a size of approximately 420 denier and a thread count range of between 42 and 52.

28. (Previously Presented) The vehicle air bag as recited in claim 24, wherein said fabric substrate has a size of approximately 525 denier and a thread count range of between 36 and 46.

29. (Previously Presented) The vehicle air bag as recited in claim 24, wherein said fabric substrate has a size of approximately 630 denier and a thread count range of between 33 and 43.

30. (Previously Presented) The vehicle air bag as recited in claim 24, wherein said fabric substrate has a size of approximately 840 denier and a thread count range of between 15 and 25.

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31. (Previously Presented) A vehicle air bag as defined in claim 1, wherein the aqueous solution further comprises a plasticizer.

32. (Previously Presented) A vehicle air bag as defined in claim 31, wherein the aqueous solution further comprises a surfactant.

33. (Previously Presented) A vehicle air bag as defined in claim 21, wherein the aqueous solution further comprises a plasticizer.

34. (Previously Presented) A vehicle air bag as defined in claim 33, wherein the aqueous solution further comprises a surfactant.

35. (Previously Presented) A vehicle air bag as defined in claim 1, wherein the aqueous solution contains the flame retardant, the flame retardant comprising a phosphorous or sulfur compound.

36. (Previously Presented) A vehicle air bag as defined in claim 21, wherein the aqueous solution contains the flame retardant, the flame retardant comprising a phosphorous or sulfur compound.